
Installation

Hardware configuration

[Procedure 3 on page 53](#) details the materials and describes how to install the HSDM. It details the connection between the HSDM and the DLC.

[Procedure 4 on page 55](#) describes how to remove the HSDM.

For the V.35 interface configuration, a 10-pin DIP jumper plug inside the HSDM must be removed from the RS-232-C socket and installed in the V.35 socket. These sockets are located on the QPC824, the main circuit board inside the HSDM. [Figure 5](#) shows the locations of these two sockets.

The HSDM is shipped from the factory configured for the RS-232 interface. The HSDM should be configured for the V.35 interface only in the field at installation time.

Adapter cable

An adapter cable is also needed to convert from the ISO-2110 connector to an ISO-2593 (34-pin connector). [Figures 6 and 7](#) show the details and the connection of the adapter cable. An extension cable could be added to the length of the adapter cable as shown in [Figure 7](#).

- A DTE equipped with female ISO-2593 requires adapter cable number A0300752.
- A DTE equipped with male ISO-2593 requires adapter cable number A0300753.

Figure 5
V.35 and RS-232 socket location on the QPC824

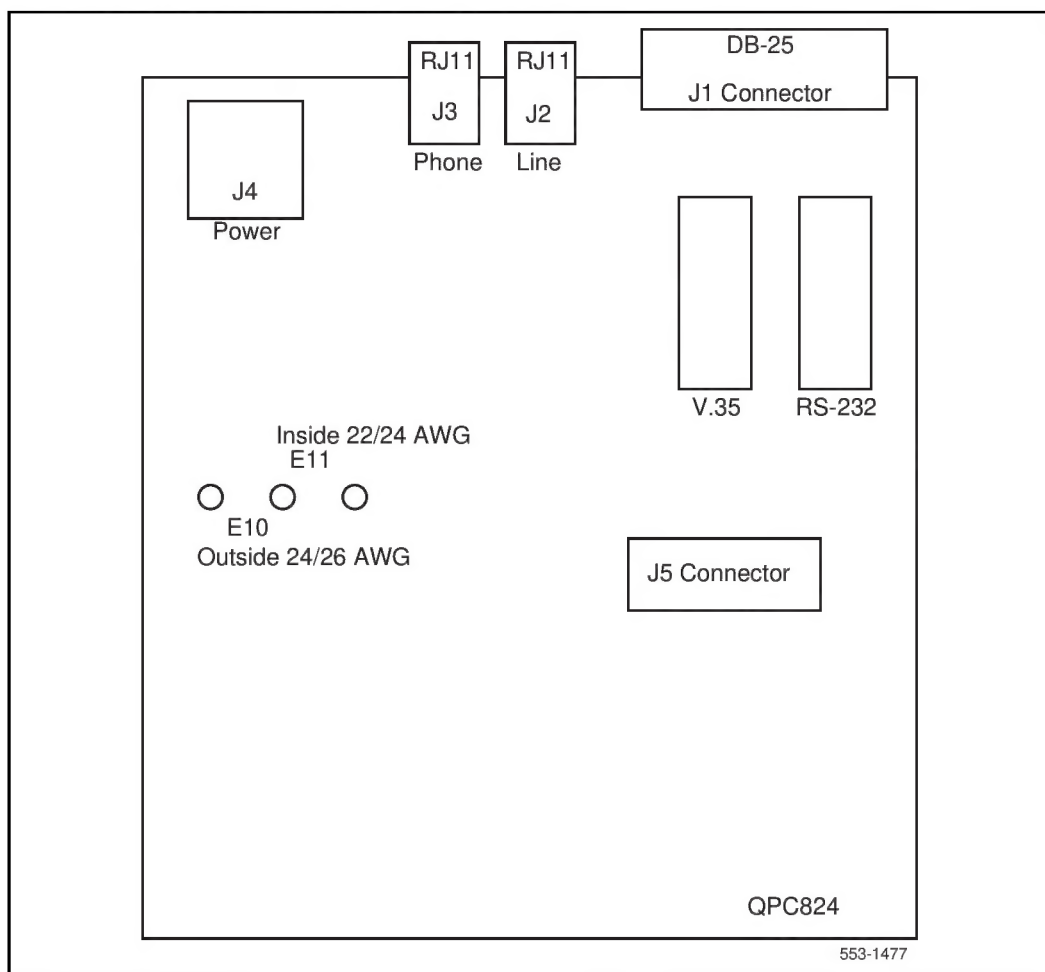


Figure 6
QMT21 with adapter cable for V.35

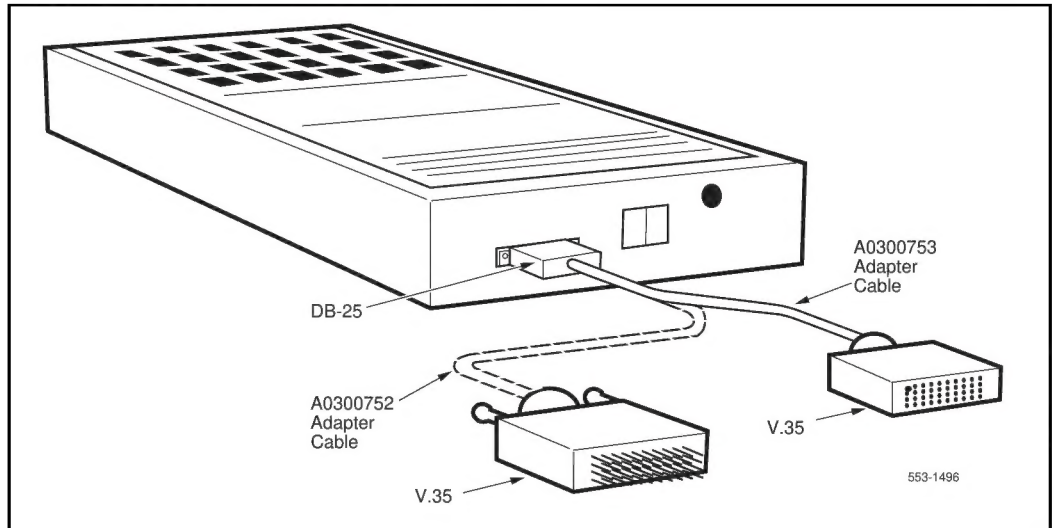
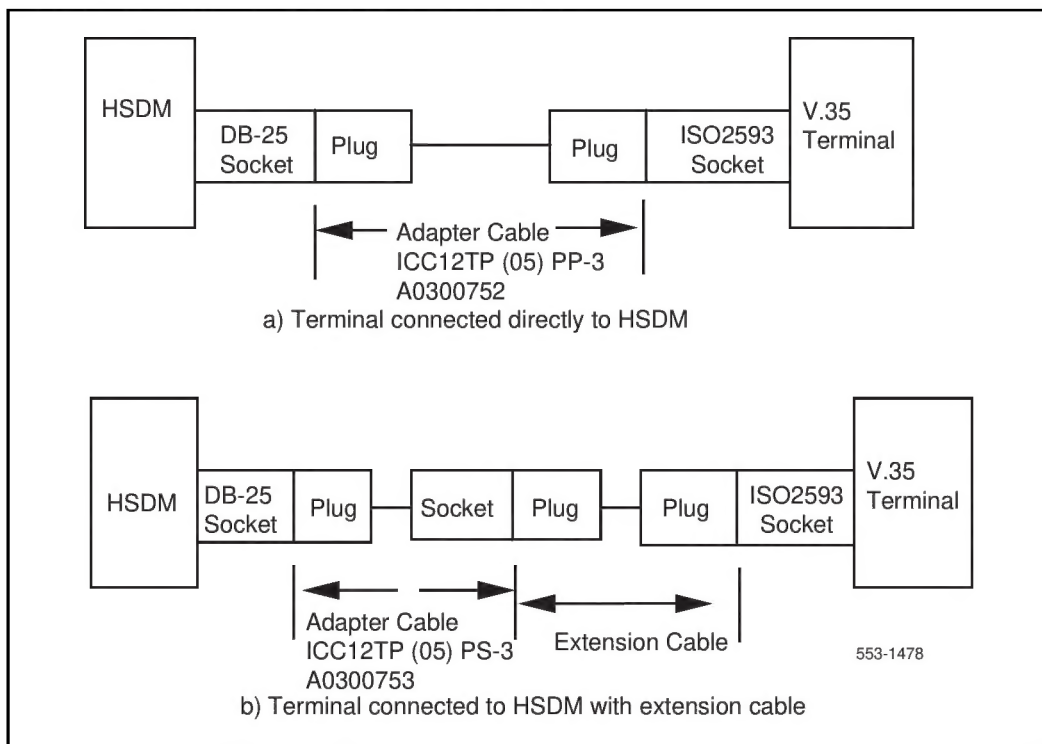


Figure 7
QMT21 with adapter cable connection for V.35



Wire gauge setting

A jumper inside the HSDM is provided to select 22/24-gauge inside wire or 26-gauge outside wire (see [Figure 5](#) for the locations of the straps).

Designation	Setting
E10, E11	E11 (inside 22/24 AWG)
	E10 (outside 24/26 AWG)

Cabling

The physical capacities and provisioning requirements of data feature hardware must be met upon installation. [Table 3](#) lists cabling and environmental requirement and limitations. All hardware is installed using basic installation tools.

Table 3
Cabling capabilities

Allowable cabling	Type D PVC inside wiring cable		
	PIC for outside use only		
Maximum separation distances			
HSDM to DTE	Distance consistent with EIA RS-232 cable loading specifications.		
	Note that in some cases the above limitations may be exceeded with no adverse effect on HSDM operation.		
Distance (by cable type)			
HSDM to DLC	PIC outside	PVC inside	Gauge
	4000 ft. (1220 m)	4000 ft. (1220 m)	22 AWG
	3500 ft. (1070 m)	2900 ft. (884 m)	24 AWG
	2000 ft. (610 m)		26 AWG
	2500 ft. (760 m)	2500 ft. (760 m)	22/24 mixed
	1500 ft. (460 m)	1200 ft. (370 m)	24/26 mixed

DTE interface

The HSDM provides a 25-pin connector that conforms to ISO-2110 mounted in the rear on the housing.

Note 1: If an RS-232C cable is used to connect the HSDM to an ADM3 terminal, pin 22 should be disconnected. If a full RS-232-C cable is used without pin 22 disconnected, the ADM3 goes into test mode.

Note 2: When the HSDM is connected to a VT100 terminal, a break on the terminal drops the DTR signal and sends a long break. The HSDM does not display RELEASED MESSAGE. The prompt can be displayed by forcing DTR on the HSDM.

Note 3: When the HSDM is connected to a VT102 terminal, a break on the terminal drops the DTR signal. The HSDM does not display RELEASED MESSAGE. The prompt is displayed if the call is released from the keypad.

Note 4: If pseudorandom pattern 511 data is sent in the idle mode, keypad dialing is made inoperative. Use the break or release keys to clear the condition.

Configuration

Hardware provisioning capacities follow:

QTY	Item	Comments
1	HSDM	Each HSDM is connected to a data port of a DLC or a 4PDLC.
2	HSDM terminating on each DLC	TN must be L-S-C-1 and/or L-S-C-3 for QPC311 or could be L-S-C-0, 1, 2, or 3 for QPC432.

Field-replaceable items

Field-replaceable items are listed in [Table 4](#).

The related hardware is installed in different basic configurations with equipment allocated as follows:

- 1 QMT21 HSDM
- 1 DLC or 4PDLC port
- 1 (Note) NE 25MQA2A (A0237451) RS-232 cable (HSDM – DTE)
- 1 NPS50318-L1, 6-conductor Teladapt cord (HSDM – DLC)

Note: If the HSDM is specifically configured for V.35 interface, an adapter cable is needed (see [Figures 6 and 7](#)).

- Plug-to-plug adapter cable ICC12TP (05) PP-3, 5 ft (1.5 m), A0300752
- Plug-to-socket adapter cable ICC12TP (05) PS-3, 5 ft (1.5 m), A0300753

Table 4
Field-replaceable/orderable items

Items	CPC number
High Speed Data Module (HSDM) (110 V ac, 60 Hz)—QMT21A	A0342672
HSDM (220 V ac, 50 Hz)—QMT21A1	A0347343
HSDM (100 V ac, 50 Hz)—QMT21A2	A0347344
RS-232 Cord Assembly, 16 ft. (4.8 m) HSDM to DTE (NE-25MQ2A)	A0237451
NE D4B4-87, 7 ft. (2 m)—Telephone to HSDM	A0248297
NPS50318—HSDM to wall jack, 7 ft. (2 m)	A0301005
Adapter cable to HSDM (Plug to plug) ICC12TP (05) PP-3, 5 ft. (1.5 m)	A0300752
Adapter cable to HSDM (Plug to socket) ICC12TP (05) PS-3, 5 ft. (1.5 m)	A0300753

Service change

The SL-1 recognizes the HSDM port as an SL-1 telephone set; the DLC and 4PDLC as an SL-1 line card. LD11 is used to enter the DATA hardware information into the office memory.

Installing and removing the HSDM

Installation and removal procedures are provided in detail in [Procedure 3](#) and [Procedure 4](#). The HSDM can be disconnected from the network by disabling the port in the database with LD32.

Installation and removal procedures

The following materials are required for this procedure:

- QMT21 equipped with an external power supply.
- DLC or one 4PDLC port
- NE D4B4 cord to connect telephone to HSDM (optional)
- NPS50318-L1 line cord HSDM to wall jack (supplied with HSDM)
- NE 25MQA2A cord HSDM to DTE (Note 2)

Note 1: Locate the HSDM close to the terminal.

Note 2: To connect the HSDM to an ADM3 terminal, use an RS-232 cable without pin 22. If a full RS-232 cable with pin 22 is used, the ADM3 goes into test mode.

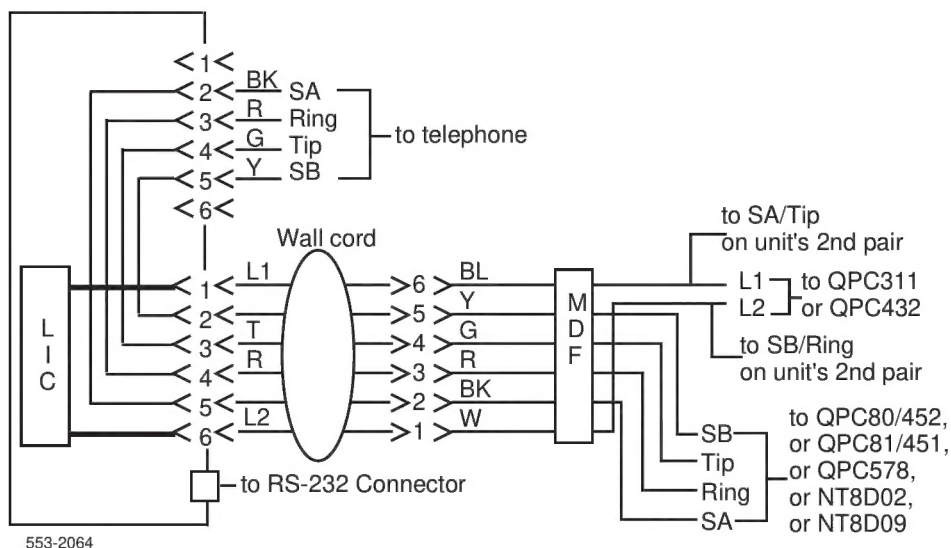
Note 3: QMT21 to QMT8 connections exhibit excessive errors at 19.2 kbps in the asynchronous mode. It is recommended that only QMT21 to QMT21 or QMT8 to QMT8 configurations be used when operating at 19.2 kbps.

Note 4: QMT21 to QMT7 connections exhibit excessive errors at 9.6 kbps in the asynchronous mode. It is recommended that QMT8 be used instead of QMT7 for this configuration.

Note 5: The QPC432 is wired out as an eight-unit card. However, only the first four units are available.

Procedure 3 Installing the HSDM (Part 1 of 3)

Step	Procedure	Reference
1	Ensure that the HSDM is not powered up.	
2	Connect one end of the supplied 7-ft (2.1 m) 6-conductor cord to the miniature line jack closest to the RS-232 connector on the rear of the HSDM. (The supplied cord is terminated at each end with a miniature 6-position plug.)	
3	Connect the other end through house wiring or cabling to the DLC data port. (See sketch and ensure that the wire continuity is maintained.)	



Note: For SA and SB connections, the QPC311 supports data connections on ports 1 and 3. The QPC432 supports data connections on ports 0, 1, 2, and 3.

- 4 Use an RS-232 NE-25MQA2A cable or a V.35 adapter cable to connect the female connector on the rear of HSDM to a supplied DTE.

Procedure 3

Installing the HSDM (Part 2 of 3)

Step	Procedure	Reference
5	If a telephone is to be associated with the HSDM, use a 4-conductor NE D4B4 cord to connect it to the miniature phone jack on the rear of the HSDM.	Figure 4
6	Verify that the external power supply is attached to the HSDM (via the 5-conductor power cord that exits from the rear of the HSDM).	Figure 4
7	Install DLC in the PE shelf.	
8	Make the MDF cross-connections and ensure that the pin numbers are correctly connected. Connect the talking pair in the usual manner. Note: There should be no bridge taps, and so on the line.	
9	Designate the cross-connections.	
10	Use LD11 to update system memory for the HSDM or the DLC.	<i>X11 input/output guide</i> (553-3001-400)
	Note: Ensure that the following restrictions are observed.	
	WTD	Warning Tone Denied
	Key 0	DN
	Key 1	Secondary DN (Required only for modem pool dialing.)
	Key 2 *	Call Transfer (optional)

Procedure 3
Installing the HSDM (Part 3 of 3)

Step	Procedure	Reference
	Key 3 ** Dial Calling (optional)	
	Key 4 Again (optional)	
	Key 6 Speed Call (optional)	
	Key 7 *** Display (DSP) (optional)	
	Key 9 RLS	
	* Key 2 is required to provide access to a manual outbound modem pooling.	
	** Key 3 is required to operate the autodial or the Hot Line feature.	
	*** DSP requires the class of service be updated to DDS or ADD.	
11	Plug the power supply into a commercial 110 V ac outlet.	
12	Test the HSDM.	Procedure 1

Procedure 4
Removing the HSDM

Step	Procedure	Reference
1	Use overlay 32 to disable the port connected to the HSDM.	
2	Unplug and disconnect the power supply.	
3	Remove the connections from the HSDM to the Meridian 1 equipment telephone DTE	Procedure 3 Step 3
4	Remove the HSDM.	
5	Pack and ship the equipment.	

Meridian 1

QMT21 High Speed Data Module

Description, installation, and
operation

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